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OLDER ADULT SELF-MEDICATION IN AN EDUCATIONAL PROGRAM: A CROSS-SECTIONAL STUDY

AUTOMEDICAÇÃO EM IDOSOS DE UM PROGRAMA EDUCATIVO: ESTUDO TRANSVERSAL

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ABSTRACT: We estimated the prevalence and variables associated with self-medication among older adults enrolled in an educational program in the Brazilian Federal District. This cross-sectional study collected data from 150 older adults by telephone from December 2022 to April 2023. Self-medication prevalence was estimated at 9.3% (95%CI 4.6–13.9). Fourteen medications were self-reported for self-medication, and the combination of dipyrone, orphenadrine, and caffeine was the most frequent (21.5%). We observed that 20% of the medicines in self-medication should be sold under medical prescription. Moreover, half of the medications used were inappropriate for this age group. Self-medication was similar to other Brazilian studies with older adults living in the community and involved mainly over-the-counter medications. We underscore the relevance of health education strategies geared to older adults regarding the safe use of medications and the risks of self-medication.

KEYWORDS: Keywords: Health of the Elderly. Pharmacoepidemiology. Drug Misuse. Potentially Inappropriate Medication List. Health Surveys.

RESUMO: Estimar a prevalência e as variáveis associadas à automedicação em idosos de um programa educativo do Distrito Federal. Trata-se de um estudo transversal com coleta de dados por ligação telefônica com 150 idosos no período de dezembro de 2022 a abril de 2023. A prevalência de automedicação foi estimada em 9,3% (IC95% 4,6–13,9). Houve 14 medicamentos autorreferidos para automedicação, sendo que a associação entre dipirona, orfenadrina e cafeína foi a mais frequente (21,5%). Observou-se que em 20% dos medicamentos usados para a automedicação a venda deveria ocorrer sob prescrição médica. Além disso, 50% dos medicamentos utilizados eram considerados inapropriados para este grupo etário. A automedicação mostrou-se semelhante a outros estudos brasileiros com idosos que vivem na comunidade e envolveu, principalmente, os medicamentos isentos de prescrição. Ressalta-se a importância das estratégias de educação em saúde direcionadas aos idosos quanto ao uso seguro de medicamentos e aos riscos da automedicação.

PALAVRAS-CHAVE: Saúde do Idoso. Farmacoepidemiologia. Uso Indevido de Medicamentos. Lista de Medicamentos Potencialmente Inapropriados. Inquéritos Epidemiológicos.

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INTRODUCTION

The Brazilian population's frequent use of medications, especially in older adults, is influenced by several factors, including the importance of being a social good and enabling improvements in the quality of life.[1] Self-medication can be defined as the selection and use of medications to treat diseases and symptoms that affect individuals without prescription and monitoring by a qualified professional.[2-3] Although it is seen as an immediate solution for relieving symptoms, it can lead to more severe consequences than initially imagined.[4]

Brazil stands out as one of the largest global consumers of medicines due to the wide availability of these technologies, which considerably increases the likelihood of drug therapy-related issues.[5] Older adults' consumption of medicines is a matter of concern regarding excessive expenses and adverse events, besides potential drug interactions and their amount and irrational use, which demands special attention in this age group.[6]

We underscore the main contributing factors to self-medication, such as the intense advertising of over-the-counter drugs in the media, the high stock of drugs in homes, and beliefs related to the resolution of health problems.[5] However, we emphasize that choosing a drug must consider the health-disease process, biopsychosocial characteristics, and aspects of health services and systems.[7]

Older adults, in general, very frequently use health services and are admitted to hospitals when compared to other age groups, besides having increased chronic diseases with age, which demands greater consumption of medicines.[8,9] Thus, health teams play a fundamental role in managing drug therapy by guiding the proper use of medications. Comprehensive care for the community, family, and individuals enables the responsible use of medications, avoiding potential harm related to adopting these technologies.[10]

Considering the complex relationship between aging and medication use, this study aims to estimate the prevalence and variables associated with older adult self-medication in an educational program in the Federal District (DF).

METHODOLOGY

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RESULTS

The sample consisted predominantly of female participants aged 60-69 who self-reported as non-white, were highly educated, did not have a partner, and self-rated their health as excellent or good. Also, the participants did not consume alcohol or smoke, had private health insurance, self-reported a medical diagnosis of systemic arterial hypertension, had multimorbidity, and were not on polypharmacy (Table 1).

The prevalence of self-medication was estimated at 9.3% (95%CI 4.6–13.9). No association was observed between the variables investigated and self-medication (Table 1). However, we observed that 33.3% (95%CI 20.0–86.6) of older adults aged 80-89 were self-medicating. Self-medication was 17.9% (95%CI 3.6–32.0) among the smoking participants and 15.1% (95%CI 5.4–24.7) among those who did not have private health insurance.

Table 1. Characteristics of the sample of older adults and prevalence of self-medication per sociodemographic and clinical variables. Ageing University, Brasília, Federal District, Brazil, 2022-2023. (n=150)

Variables	Sample n (%)	Self-medication prevalence (95% CI)	p*
Gender			0.71
Female	131 (87.3)	10.0 (4.8–15.0)	
Male	19 (12.7)	10.5 (3.2–24.3)	
Age (years)			0.37
60-69	121 (80.6)	9.9 (4.5–15.2)	
70-79	26 (17.4)	7.7 (2.5–17.9)	
80-89	3 (2.0)	33.3 (20.0–86.6)	
Self-reported ethnicity/skin color			0.86
Non-white	92 (61.3)	10.9 (4.5–17.2)	
White	58 (38.6)	8.6 (1.3–15.8)	
Schooling (study years)			0.47
0-4	3 (2.0)	0	
5-8	8 (5.3)	0	
≥ 9	139 (92.7)	10.8 (5.6–15.9)	
Geographic region of residence in the Federal District			0.91
Central/Central-South	66 (44.0)	12.5 (4.2–19.9)	
South/Southwest	49 (32.7)	12.2 (3.0–21.4)	
North	20 (13.3)	5.0 (4.0–14.5)	

Variables	Sample n (%)	Self-medication prevalence (95% CI)	p*
East	8 (5.3)	0	
West	7 (4.7)	0	
Self-assessed health			0.63
Excellent/Good	103 (68.7)	8.7 (3.2–14.1)	
Fair/Poor/Very Poor	47 (31.3)	12.7 (3.2–22.3)	
Alcohol abuse[13]			0.80
No	132 (88.0)	9.9 (4.7–14.9)	
Yes	18 (12.0)	11.1 (3.4–25.6)	
Private health plan			0.21
No	53 (35.5)	15.1 (5.4–24.7)	
Yes	97 (64.5)	7.2 (2.1–12.4)	
Self-reported systemic arterial hypertension			0.83
No	73 (48.6)	8.2 (1.9–14.5)	
Yes	77 (51.4)	7.7 (1.8–13.7)	
Self-reported diabetes mellitus			0.39
No	123 (82.0)	11.3 (5.7–16.9)	
Yes	27 (18.0)	3.7 (3.4–10.8)	
Multimorbidity[14]			0.95
No	46 (30.7)	8.7 (0.5–16.8)	
Yes	104 (69.3)	10.6 (4.6–16.5)	
Polypharmacy			0.83
No	122 (81.3)	9.8 (4.5–15.1)	
Yes	28 (18.6)	10.7 (7.4–22.1)	

* Pearson's chi-square test. Source: Prepared by the authors.

We identified that fourteen drugs were used for self-medication, and dipyrone, orphenadrine, and caffeine (300, 35, and 50 mg) were used by three participants (21.5%), paracetamol (750 mg) by two participants (14.4%), acetylsalicylic acid (500 mg) by two participants (14.4%). The other seven drugs were used by one participant each (7.1%). Moreover, we observed that two (20%) of the ten types of drugs used should be sold under medical prescription since they have a red label.

We also noted that 50% of the medications used in self-medication by older adults are inappropriate for this age group. Box 1 describes the medications used in self-medication, the therapeutic or pharmacological subgroup, the main indications, the identification of the over-the-counter medication, and those potentially inappropriate for older adults.

Chart 1. Medicines used in self-medication, therapeutic or pharmacological subgroup, main indications, and identification of over-the-counter and potentially inappropriate medication for older adults.

Medication (concentration)	**Therapeutic or pharmacological subgroup[16]**	**Main indications[19]**	**Over-the-counter medication[18]**	**Potentially inappropriate medication for older adults[17]**	**n (%)**
Dipyrone, orphenadrine, and caffeine (300, 35, and 50 mg)	M03B - Centrally acting muscle relaxants	Pain associated with muscle contractures, including tension headache	Yes	Yes	3 (21.5)
Paracetamol (750 mg)	N02B - Analgesics and antipyretics	Fever, mild to moderate pain, including those associated with common colds and flu	Yes	No	2 (14.4)
Acetylsalicylic acid (500 mg)	N02B - Analgesics and antipyretics	Fever, mild to moderate pain, including those associated with menstrual cramps and common colds and flu	Yes	Yes	2 (14.4)
Dipyrone (1000 mg)	N02B - Analgesics and antipyretics	Fever and pain	Yes	No	1 (7.1)
Aluminum hydroxide (230 mg)	A02A – Antacids	Relief from heartburn due to poor digestion	Yes	No	1 (7.1)
Ibuprofen (400 mg)	N02B - Analgesics and antipyretics	Fever, mild to moderate pain, including those associated with a common colds and flu	Yes	Yes	1 (7.1)
Paracetamol, phenylephrine hydrochloride, and chlorpheniramine maleate (400, 4, and 4 mg)	N02B - Analgesics and antipyretics	Common cold and flu symptoms, such as fever, aches and pains, runny nose and nasal congestion	Yes	Yes	1 (7.1)
Diclofenac sodium (10 mg/g)	M02A - Topical products for joint and muscle pain	Pain and inflammation of the musculoskeletal system	Yes	Yes	1 (7.1)
Bilastine (20 mg)	R06A - Antihistamine for systemic use	Symptoms of allergic rhinoconjunctivitis (intermittent or persistent) and urticaria	No	No	1 (7.1)
Dexlansoprazole (60 mg)	A02B - Medications for peptic ulcer and gastroesophageal reflux disease	Healing of esophageal lesions caused by erosive esophagitis, maintenance of healing of erosive esophagitis, and treatment of heartburn related to gastroesophageal reflux disease	No	Yes	1 (7.1)
Total					**14 (100)**

Source: Prepared by the authors.

DISCUSSION

The study highlighted the prevalence of self-medication among seniors in an educational program in the Federal District. It showed that potentially inappropriate medications for this age group are a matter of concern and can compromise the health of those who perform such practices.

Another study also conducted at UniSER in 2017 comprised people over 45 with a sample of 215 participants. It adopted sociodemographic, health, medication use, and self-medication variables with a predominance of female participants, which reflects a common demographic trend in research with older adults, given that women's life expectancy is higher than that of men in the Federal District.[20]

The schooling level disparity can directly influence self-medication behavior, as more educated participants tend to have more confidence in their knowledge about the risks involved or in managing their treatment.[21] However, this study noted a tendency towards self-medication regardless of educational level.

The dipyrone, orphenadrine, and caffeine combination prevailed in self-medication. The 2017 UniSER study also identified this medication and 40% inadequacy among medications used for the reported symptoms.[20] One hypothesis for this finding is that self-medication is a complex and multifactorial behavior influenced by health conditions, sociodemographic variables, and access to health services.[20-23]

A study conducted in the Brazilian southern region revealed similar patterns of risk in the use of medications among older adults, especially regarding self-medication and the use of potentially inappropriate medications. Seniors with chronic conditions and advanced age are at greater risk of using inappropriate medications, whether through self-medication or inappropriate prescription. We should underscore that health education and access to health care are essential to curb the misuse of medications and the associated risks.[24]

A study conducted in Montes Claros, Minas Gerais, investigated older adults serviced in drugstores from August 2016 to July 2018, considering self-medication as the dependent variable. The sample consisted of 302 people, primarily females aged 66-69, and self-medication was more prevalent among more educated and more affluent seniors (42.3%) who reported having chronic diseases. The study's results showed that self-medication was a common public health issue among older adults, with medications purchased without a prescription.[6]

A population-based epidemiological study conducted in Minas Gerais had a sample composed of 684 people residing in the state, 75.4% of whom were women, with a mean age of 68.2, most had health insurance (63.0%), and 59.4% reported that they engaged in self-medication. The study identified that analgesics and anti-inflammatories were the most used by seniors (50.0%).[25] Notably, muscle relaxants and non-steroidal anti-inflammatory drugs were widely employed, which may reflect the varying self-medication practices and the need for greater awareness of the risks associated with inappropriate medications for older adults.[26,27]

Self-medication among older adults is widely documented in different studies, and its prevalence may vary depending on sociodemographic factors, access to health care, and individuals' perception of the risks involved. This study showed a lower prevalence of self-medication than other national studies with seniors living in the community.[28-29]

In several studies, the use of potentially inappropriate medications for older adults was a point of concern. In this study, half of the medications used for self-medication were inappropriate, including dipyrone, paracetamol, and acetylsalicylic acid. This fact is troubling since there is an increased risk of

complications, such as gastric ulcers and adverse events related to the prolonged use of these medications.[29]

This study found that easier access to health services, such as having private insurance, can reduce self-medication. However, other studies have shown that self-medication is still prevalent, even in groups with some access to health services.[29-30] Free access to medicines, especially when there is no guidance from a health professional, increases the risk of adverse events, as there is an expectation that such technologies are harmless.[30]

One limitation of this study is recall bias since participants may not have reported taking some medication due to forgetfulness. Thus, we believe that the prevalence of self-medication was underestimated. However, we highlight the practical implications of this study since it showed the profile of self-medication in older adults living in the community of the Federal District. It emphasizes the importance of health education strategies geared to this age group, especially regarding the safe use of medications and self-medication risks, besides the focus on interprofessional care regarding geriatric drug therapy.

CONCLUSION

Self-medication in this sample was similar to other Brazilian studies with older adults and mainly involved over-the-counter medications. We should note that interprofessional care for this population group should prioritize an approach regarding potentially inappropriate medications and the harm they can cause to health.

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